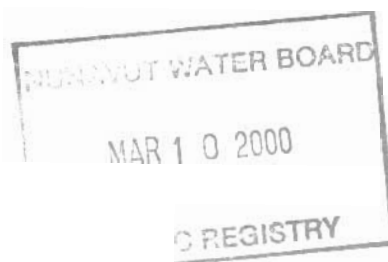


## APPENDIX 2: MSDS SHEETS

INTERNAL	
PG	<i>21</i>
LA	<i>Mar 13</i>
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TA	
BS	
EO	
CEO	
PRD	



## SECTION I: IDENTIFICATION OF PRODUCT

PRODUCT NAME: **KOPR KOTE**  
CHEMICAL FAMILY: Oil, Copper, Graphite and Lead  
WHMIS CLASSIFICATION: Not available  
WORK PLACE HAZARD: Not available

## TRANSPORTATION OF DANGEROUS GOODS (TDGR)

CLASSIFICATION: Not available  
PACKAGE GROUP: Not available  
PRODUCT IDENTIFICATION NUMBER (PIN): Not available

## SECTION II: HAZARDOUS INGREDIENTS

INGREDIENT	PERCENTAGE	CAS NUMBER	OSHA PEL	ACGIH TLLV
Petroleum Oil	70M	64742-57-0 or 64742-62-7	Oil Mist TWA - 5 mg/M <sup>3</sup>	Not applicable
Lead Powder	15M	7439-92-1	Air - 200 ug/M <sup>3</sup>	Air - 0.15 mg/M <sup>3</sup>

## SECTION III: TOXICOLOGICAL PROPERTIES

ROUTE OF ENTRY: (Information not available)  
[ ] Skin, [ ] Eye Contact, [ ] Inhalation, [ ] Ingestion

SKIN CONTACT: Not available.  
EYE CONTACT: Not available.  
INHALATION: Not available.  
INGESTION: Not available.  
SYMPTOMS OF EXPOSURE: Redness and irritation of skin.  
EFFECTS OF OVEREXPOSURE: Repeated skin contact for persons hypersensitive to petroleum products can cause redness and irritation of skin.  
MEDICAL CONDITIONS POTENTIALLY AGGRAVATED BY EXPOSURE: Unknown  
MATERIAL LISTED AS CARCINOGEN OR POTENTIAL CARCINOGEN: National Toxicology Program - No, IARC - No, OSHA - No

## SECTION IV: FIRST AID MEASURES

SKIN CONTACT: Remove by wiping, or waterless hand cleaner, followed by washing.  
EYE CONTACT: Wash with copious quantities of water.  
INHALATION: Clear air passages, call a physician.  
INGESTION: **DO NOT** induce vomiting; call a physician.  
OTHER INSTRUCTIONS: Not applicable

## SECTION V: PHYSICAL DATA

APPEARANCE AND ODOR: Copper colored paste; petroleum odor.  
DENSITY (SPECIFIC GRAVITY): 1.23  
BOILING POINT: 441° C  
MELTING POINT: Not applicable  
WATER SOLUBILITY: None

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**KOPR KOTE**

Page 2 of 2

% VOLATILE BY VOLUME:	None
EVAPORATION RATE:	< 0.01
VAPOR PRESSURE: (mm Hg)	< 0.01
VAPOR DENSITY: (Air = 1)	> 5.0
pH:	Not available
VISCOSITY:	Not available

---

**SECTION VI: FIRE AND EXPLOSION HAZARD DATA**

---

FLASH POINT:	294° C (COC Method)
FLAMMABLE LIMIT:	LEL = 0.9% UEL = 7%
AUTO-IGNITION TEMPERATURE:	> 315° C
EXTINGUISHING MEDIA:	Use foam, dry chemical, water spray(fog), carbon dioxide CO <sub>2</sub> , or vaporizing liquid type extinguishing agents.
SPECIAL FIRE FIGHTING PROCEDURES:	Use supplied-air breathing equipment for enclosed or confined spaces.
UNUSUAL FIRE AND EXPLOSION HAZARDS:	None

---

**SECTION VII: REACTIVITY DATA**

---

STABLE [XXX] INSTABLE [ ]	
INCOMPATIBILITY (CONDITIONS TO AVOID):	Strong oxidizing materials and copper reactive agents. Incompatible with 1-bromo-2-propyne, NH <sub>4</sub> NO <sub>3</sub> , ClF <sub>3</sub> , H <sub>2</sub> O <sub>2</sub> , NaN <sub>3</sub> , Na <sub>2</sub> C <sub>2</sub> , Zr.
HAZARDOUS DECOMPOSITION PRODUCTS:	Hydrogen, carbon monoxide, aldehydes, smoke, toxic fumes and toxic copper and lead compounds.
HAZARDOUS POLYMERIZATION:	Will not occur [XXX] May occur [ ]

---

**SECTION VIII: PREVENTATIVE MEASURES**

---

RESPIRATORY PROTECTION:	None required.
VENTILATION:	No special ventilation required.
PROTECTIVE GLOVES:	None required.
EYE PROTECTION:	None required.
OTHER PROTECTIVE EQUIPMENT:	Persons with hypersensitive skin should use gloves.
PERMISSIBLE CONCENTRATIONS:	Not available

**PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE:**

Normal precautions as with any petroleum product. Wash hands before eating.

**STEPS TO BE TAKEN IN CASE OF SPILL OR LEAK:**

Scoop up excess, wipe with rags, pick up residue with diatomaceous earth to avoid walking hazard.

**WASTE DISPOSAL METHOD:**

Consult federal, provincial/state and local regulations for petroleum products.

---

**SECTION IX: PREPARATION**

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The information contained herein is given in good faith, but no warranty, expressed or implied is made.

DATE ISSUED: May 25, 1991

DATE REVISED: September 1, 1997

BY: Product Safety Committee

## SECTION I: IDENTIFICATION OF PRODUCT

PRODUCT NAME: **LINSEED SOAP**  
CHEMICAL FAMILY: Lubricating grease  
WHMIS CLASSIFICATION: Not regulated  
WORK PLACE HAZARD: Not applicable

## TRANSPORTATION OF DANGEROUS GOODS (TDGR)

CLASSIFICATION: Not available  
PACKAGE GROUP: Not available  
PRODUCT IDENTIFICATION NUMBER (PIN): Not applicable (Petroleum Lubricating Grease)

## SECTION II: HAZARDOUS INGREDIENTS

INGREDIENT	PERCENTAGE	CAS NUMBER	LD50	LC50
Linseed Soap	100%	Mixture		

## SECTION III: TOXICOLOGICAL PROPERTIES

ROUTE OF ENTRY: (Information not available)  
[ ] Skin, [ ] Eye Contact, [XXX] Inhalation, [ ] Ingestion

SKIN CONTACT: Prolonged and repeated contact with skin can cause defatting and drying of the skin resulting in skin irritation and dermatitis.  
EYE CONTACT: Not available.  
INHALATION: Inhalation of oil mist or vapors from hot grease may cause irritation of the upper respiratory tract. Long term intensive exposure may cause benign lung fibrosis.  
INGESTION: Not available.  
CHRONIC OVEREXPOSURE: Not determined.  
IRRITATION INDEX: SKIN: Not available.  
SYMPTOMS OF EXPOSURE: Not available.  
EXPOSURE INFORMATION: Oil mist (particulate): 5 mg/M<sup>3</sup> (TLV/TWA)  
ACGIH 88/89 10 mg/M<sup>3</sup> (TLV/STEL) ACGIH 88/89

## SECTION IV: FIRST AID MEASURES

SKIN CONTACT: Remove contaminated clothing. Wash contaminated skin with mild soap and water. Wipe excess from skin.  
EYE CONTACT: Flush eyes with water for at least fifteen (15) minutes.  
INHALATION: Remove victim from further exposure. Additional first aid treatment is not ordinarily required.  
INGESTION: Do not induce vomiting. Obtain medical attention immediately.  
OTHER INSTRUCTIONS: None

## SECTION V: PHYSICAL DATA

APPEARANCE AND ODOR: Semi-solid brown colored grease; slight hydrocarbon odor.  
DENSITY (SPECIFIC GRAVITY): 1.0  
BOILING POINT: 100° C  
MELTING POINT: Not available  
WATER SOLUBILITY: Miscible



## LINSEED SOAP

Page 2 of 3

% VOLATILE BY VOLUME:	Not available
EVAPORATION RATE:	Not available
VAPOR PRESSURE: (mm Hg)	Not available
VAPOR DENSITY: (Air = 1)	Not available
pH:	9.5
VISCOSITY:	Not available

---

### SECTION VI: FIRE AND EXPLOSION HAZARD DATA

---

FLASH POINT:	222° C
FLAMMABLE LIMIT:	Not available
AUTO IGNITION TEMP:	343° C
EXTINGUISHING MEDIA:	Dry chemical, carbon dioxide CO <sub>2</sub> , foam water fog.
SPECIAL FIRE FIGHTING PROCEDURES:	No special procedures - Avoid inhalation of smoke. Caution, spilled material is slippery. Use water to cool fire-exposed containers.
UNUSUAL FIRE AND EXPLOSION HAZARDS:	None currently known.

---

### SECTION VII: REACTIVITY DATA

---

STABLE [XXX] INSTABLE [ ]	
INCOMPATIBILITY (CONDITIONS TO AVOID):	Not available.
HAZARDOUS DECOMPOSITION PRODUCTS:	Carbon monoxide; carbon dioxide and dense smoke are produced on combustion. Avoid excessive heat, formation of vapors or mists.
HAZARDOUS POLYMERIZATION:	Will not occur [ ] May occur [ ] Not Available

---

### SECTION VIII: PREVENTATIVE MEASURES

---

RESPIRATORY PROTECTION:	Under conditions of high heat use an air purifying respirator (mechanical filter with accompanying organic vapor cartridge).
VENTILATION:	Highly recommended for all indoor situations to control fugitive emissions. Concentrations in air should be maintained below the recommended threshold limit value if unprotected personnel are involved.
LOCAL:	If oil mist is present or if exposure is exceeded.
MAKE-UP AIR:	Should always be supplied to balance air exhausted (either generally or locally).
PROTECTIVE GLOVES:	Impervious gloves (viton, nitrile, PVC neoprene) should be worn at all times when handling this product.
EYE PROTECTION:	Chemical safety goggles and/or full face shield to protect eyes and face, if product is handled such that it could be splashed into eyes.
OTHER PROTECTIVE EQUIPMENT:	Impervious clothing (apron, coveralls) should be worn in confined workspaces or where the risk of skin exposure is much higher.
PERMISSIBLE CONCENTRATIONS:	Not available.



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## **LINSEED SOAP**

Page 3 of 3

### **PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE:**

Store in a cool, dry, well ventilated area, away from heat and ignition sources. Avoid excessive heat, formation of oil mist, breathing of vapors and mist of hot oil and prolonged or repeated contact with skin. Launder contaminated clothing prior to reuse. Properly dispose of contaminated leather articles, including shoes, that cannot be decontaminated.

### **STEPS TO BE TAKEN IN CASE OF SPILL OR LEAK:**

Spilled material is slippery. Isolate hazard area and restrict access. Wear appropriate breathing apparatus (if applicable) and protective clothing. Stop leak only if safe to do so. Contain a land spill by diking. For large spills remove by mechanical means and place in containers. Clean area with appropriate cleaner. Do not allow product to run off from fire control to enter storm or sanitary sewers, lakes, rivers, streams or public waterways. Block off drains and ditches. Provincial regulations require and federal regulations may require that environmental and/or other agencies be notified of a spill incident. Spill area must be cleaned and restored to original condition or to the satisfaction of authorities.

### **WASTE DISPOSAL METHOD:**

Reclaim or dispose of at a licensed waste disposal company.

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## **SECTION IX: PREPARATION**

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The information contained herein is given in good faith, but no warranty, expressed or implied is made.

DATE ISSUED: May 28, 1991

DATE REVISED: September 1, 1997

BY: Product Safety Committee

## SECTION I: IDENTIFICATION OF PRODUCT

PRODUCT NAME: **LUBTUB**  
CHEMICAL FAMILY: Partial Sodium Salt of Polyacrylic Acid  
WHMIS CLASSIFICATION: D-2(B)  
WORK PLACE HAZARD: Skin and eye irritant.

## TRANSPORTATION OF DANGEROUS GOODS (TDGR)

CLASSIFICATION: Not Dangerous Goods  
PACKAGE GROUP: Not applicable  
PRODUCT IDENTIFICATION NUMBER (PIN): Not applicable

## SECTION II: HAZARDOUS INGREDIENTS

INGREDIENT	PERCENTAGE	CAS NUMBER	LD50	LC50
Partial sodium salt of polyacrylic acid	15 - 40%	Mixture	Not available	Not available

## SECTION III: TOXICOLOGICAL PROPERTIES

ROUTE OF ENTRY:  
[XXX] Skin, [XXX] Eye Contact, [ ] Inhalation, [XXX] Ingestion

SKIN CONTACT: No effects of exposure expected due to contact. Prolonged contact may cause skin irritation or dermatitis in some individuals.  
EYE CONTACT: May cause watering of eyes and inflammation of conjunctiva.  
INHALATION: If misted, may cause sneezing, slight irritation of nose and throat.  
INGESTION: May cause nausea and vomiting.

## SECTION IV: FIRST AID MEASURES

SKIN CONTACT: Wash exposed area with soap and water. If irritation or abnormalities persist, call a physician.  
EYE CONTACT: Immediately flush eyes with water for fifteen (15) minutes and call a physician.  
INHALATION: Remove to fresh air. Give artificial respiration if not breathing preferably mouth to mouth. If breathing difficult give oxygen. Call a physician.  
INGESTION: If conscious, induce vomiting by giving two glasses of water and sticking finger down throat. *Do not give anything by mouth to an unconscious or convulsing person. Call a physician.*

## SECTION V: PHYSICAL DATA

APPEARANCE AND ODOR: Clear to hazy, light amber liquid; Slight sweetish odor.  
DENSITY (SPECIFIC GRAVITY): 1.2  
BOILING POINT: Not available  
MELTING POINT: Not available  
WATER SOLUBILITY: Soluble  
% VOLATILE BY VOLUME: Not available  
EVAPORATION RATE: Not available  
VAPOR PRESSURE: (mm Hg) Not available  
VAPOR DENSITY: (Air = 1) Not available  
pH: 7.0 - 9.0

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**LUB TUB**

Page 2 of 2

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**SECTION VI: FIRE AND EXPLOSION HAZARD DATA**

---

FLASH POINT: > 100° C  
FLAMMABLE LIMIT: Not applicable  
EXTINGUISHING MEDIA: Water, water spray, foam, dry chemical.  
SPECIAL FIRE FIGHTING PROCEDURES: Self contained respirators required for fire fighting personnel.  
UNUSUAL FIRE AND EXPLOSION HAZARDS: None

---

**SECTION VII: REACTIVITY DATA**

---

STABLE [XXX] INSTABLE [ ]  
INCOMPATIBILITY (CONDITIONS TO AVOID): Strong oxidizing agents and caustic solutions.  
HAZARDOUS DECOMPOSITION PRODUCTS: Carbon dioxide; carbon monoxide.  
HAZARDOUS POLYMERIZATION: Will not occur [XXX] May occur [ ]

---

**SECTION VIII: PREVENTATIVE MEASURES**

---

RESPIRATORY PROTECTION: If vapors or mist are present suggest approved NIOSH/MESA air purifying respirator.  
VENTILATION:  
PROTECTIVE GLOVES:  
EYE PROTECTION:  
OTHER PROTECTIVE EQUIPMENT:

**PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE:**

**STEPS TO BE TAKEN IN CASE OF SPILL OR LEAK:**

**WASTE DISPOSAL METHOD:**

---

**SECTION IX: PREPARATION**

---

The information contained herein is given in good faith, but no warranty, expressed or implied is made.

DATE ISSUED: November 10, 1990

DATE REVISED: September 1, 1997

BY: Product Safety Committee

## SECTION I: IDENTIFICATION OF PRODUCT

PRODUCT NAME: **PELADOW®**  
PRODUCT USE: Oil Well Fluid Additive  
CHEMICAL FAMILY: Calcium Chloride (>90%)

## WORK PLACE HAZARDOUS MATERIALS INFORMATION SYSTEM (WHMIS)

WHMIS CLASSIFICATION: Class D-2(B)  
WORK PLACE HAZARD: Skin and Eye Irritant

## TRANSPORTATION OF DANGEROUS GOODS (TDGR)

SHIPPING NAME: Not Regulated Under TDG  
TDG CLASSIFICATION: Not applicable  
PACKAGE GROUP: Not applicable  
PRODUCT IDENTIFICATION NUMBER (PIN): Not applicable

## SECTION II: HAZARDOUS INGREDIENTS

INGREDIENT	PERCENTAGE	CAS NUMBER	LD50 (oral rat)
Calcium Chloride	91 - 92%	10043-52-4	900-2100 mg / kg (100%)
Sodium Chloride	1 - 2%	7647-14-5	Not available
Potassium Chloride	2-3%	7447-40-7	Not available
Strontium Chloride	1%	10476-85-4	Not available

## SECTION III: TOXICOLOGICAL PROPERTIES

## ROUTE OF ENTRY:

[XX] Skin, [XX] Eye Contact, [XX] Inhalation, [XX] Ingestion

## EYE CONTACT:

Dusts may cause moderate to severe eye irritation. with corneal injury that may be slow to heal. When dissolving, the heat produced may cause more intense effects as well as thermal burns.

## SKIN CONTACT:

Short single exposure not likely to cause significant skin irritation. Prolonged or repeated exposure may cause skin irritation, even a burn. May cause more severe response if skin is damp and/or abraded, or if material is confined to skin. When dissolving, the heat produced may cause more intense effects as well as thermal burns. DOT classification: Noncorrosive.

## SKIN ABSORPTION:

A single prolonged exposure is not likely to result in the material being absorbed through the skin in harmful amounts. The LD<sub>50</sub> for skin absorption in rabbits is >5000 mg / kg.

## INGESTION:

Single dose oral toxicity is low. Swallowing solids may cause gastro-intestinal irritation or ulceration.

## INHALATION:

Vapours are unlikely due to physical properties. Dust may cause irritation of upper respiratory tract.

## SECTION IV: FIRST AID MEASURES

SKIN CONTACT: Immediately wash skin with lots of soap and water. Remove contaminated clothing and shoes; wash before reuses. Get medical attention if irritation persists after washing.

EYE CONTACT: *Get immediate medical attention.* Immediately flush eyes with lots of running water for 15 minutes, lifting the upper and lower eyelids occasionally.

**PELADOW®**

Page 2 of 3

INGESTION: If conscious, immediately induce vomiting. *Get immediate medical attention. Do not give anything by mouth to an unconscious or convulsing person.*

INHALATION: remove to fresh air. Give artificial respiration if not breathing. *Get immediate medical attention.*

NOTE TO PHYSICIAN: If burn is present, treat as any thermal burn, after decontamination, No specific antidote. Supportive care. Treatment based on judgement of the physician in response to reactions of patient.

---

**SECTION V: PHYSICAL DATA**

---

APPEARANCE AND ODOR:	White to off-white powder; odorless.
DENSITY (SPECIFIC GRAVITY):	2.2 g/cc
BOILING POINT:	198° C
MELTING POINT:	Approximately 230° C
WATER SOLUBILITY:	Soluble pH 7-10
% VOLATILE BY VOLUME:	Not applicable
EVAPORATION RATE:	Not applicable
VAPOR PRESSURE: (mm Hg)	0.009 mm Hg 20° C
VAPOR DENSITY: (Air = 1)	Not applicable

---

**SECTION VI: FIRE AND EXPLOSION HAZARD DATA**

---

FLASH POINT:	Not applicable
FLAMMABLE LIMIT:	Not applicable
EXTINGUISHING MEDIA:	This material is not combustible
SPECIAL FIRE FIGHTING PROCEDURES:	Self-contained respirators required for fire-fighting personnel
UNUSUAL FIRE AND EXPLOSION HAZARDS:	None

---

**SECTION VII: REACTIVITY DATA**

---

STABLE [XXX] INSTABLE [ ]

INCOMPATIBILITY (CONDITIONS TO AVOID): (Specific Materials to Avoid) Calcium Chloride will: corrode most metals exposed to air, attack aluminium (and its alloys) and yellow brass; react with sulphuric acid to form hydrogen chloride which is corrosive, irritating, and reactive; give an exothermic reaction with water-reactive materials such as sodium; result in a runaway polymerization reaction with methyl vinyl ether (Bretherick, 1979); and, in solution form react with zinc (galvanizing) to yield hydrogen gas which is explosive (Ibid.). (Bretherick, L. 1979, Handbook of Reactive Chemical Hazards, 2nd Ed.)

HAZARDOUS DECOMPOSITION PRODUCTS: Not Applicable

HAZARDOUS POLYMERIZATION: Will not occur [XX] May occur [ ]

---

**SECTION VIII: PREVENTATIVE MEASURES**

---

RESPIRATORY PROTECTION:	Approved dust respirator mask
VENTILATION:	Local mechanical exhaust
PROTECTIVE GLOVES:	Rubber gloves.
EYE PROTECTION:	Chemical goggles.
OTHER PROTECTIVE EQUIPMENT:	An eyewash and safety shower should be nearby and ready for use.



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## PELADOW®

Page 3 of 3

### PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE:

Avoid eye and prolonged skin contact, Always use cool water (temperature less than 27° C), when dissolving calcium chloride. Heat developed by solutions is very high during dissolving and mixing. When exposed to atmosphere, calcium chloride will pick up water and form a solution. Leather clothing and shoes will be damaged by calcium chloride.

### STEPS TO BE TAKEN IN CASE OF SPILL OR LEAK:

Losses incidental to correct applications of this product in its intended uses are not expected to be harmful to the environment. Wear appropriate safety apparel during clean-up. Avoid entry of large amount of product into sewers, natural waters, and drinking water sources. Due to possible harmful effects. Avoid contact with vegetation, animals and fish life. Recover quickly into suitable, dry sealable containers if reusing. Small quantities may be flushed away with plenty of water. Walking surfaces may remain wet longer due to moisture being held by spilled product - avoid by thoroughly water washing surfaces.

### WASTE DISPOSAL METHOD:

Dispose of contaminated product and materials used in cleaning up spills or leaks in a manner approved for this material. Consult appropriate regulatory agencies to ascertain proper disposal procedures

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## SECTION IX: PREPARATION

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The information contained herein is given in good faith, but no warranty, expressed or implied is made.

DATE ISSUED: December 15, 1994

DATE REVISED: September 1, 1997

BY: Product Safety Committee

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**SECTION I: IDENTIFICATION OF PRODUCT**

---

PRODUCT NAME: **SUPER POLY**  
CHEMICAL FAMILY: Cellulose Ether  
PRODUCT USE: Drilling Mud Additive.  
WHMIS CLASSIFICATION: Not a Controlled Product under WHMIS  
WORK PLACE HAZARD: Not applicable.

---

**TRANSPORTATION OF DANGEROUS GOODS (TDGR)**

---

CLASSIFICATION: Not applicable.  
PACKAGE GROUP: Not applicable.  
PRODUCT IDENTIFICATION NUMBER (PIN): Not applicable.

---

**SECTION II: HAZARDOUS INGREDIENTS**

---

INGREDIENT	PERCENTAGE	CAS NUMBER	LD50 LC50
No Hazardous Ingredients.			

---

**SECTION III: TOXICOLOGICAL PROPERTIES**

---

## ROUTE OF ENTRY:

[ ] Skin, [ ] Eye Contact, [ ] Inhalation, [ ] Ingestion

SKIN CONTACT: May produce slight irritation with prolonged contact with moistened product.

EYE CONTACT: Dust may produce mechanical irritation.

INHALATION: Non-irritating to mucous membranes, however, breathing high concentrations of the dust may cause mechanical irritation of the nose, throat and upper respiratory tract.

INGESTION: Passes through relatively inert. May cause gastro intestinal upset.  
Oral LD50 > 25 g/kg (rats).

---

**SECTION IV: FIRST AID MEASURES**

---

SKIN CONTACT: Wash exposed area with soap and water. If irritation develops seek medical attention.

EYE CONTACT: Flush eyes with running water for at least fifteen (15) minutes. If illness or adverse symptoms develop, seek medical attention.

INHALATION: Remove from exposure. If illness or adverse symptoms develop, seek medical attention.

INGESTION: Give two (2) glasses of water and induce vomiting. If illness or adverse symptoms develop, seek medical attention.

---

**SECTION V: PHYSICAL DATA**

---

APPEARANCE AND ODOR: Light colored powder; Odorless.

DENSITY (SPECIFIC GRAVITY): 1.6

BOILING POINT: Not applicable

MELTING POINT: Not applicable

WATER SOLUBILITY: Complete

% VOLATILE BY VOLUME: Negligible

EVAPORATION RATE: Not applicable

VAPOR PRESSURE: (mm Hg) Not applicable

VAPOR DENSITY: (Air = 1) Not applicable



## SUPER POLY

Page 2 of 2

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### SECTION VI: FIRE AND EXPLOSION HAZARD DATA

---

FLASH POINT:	Not applicable
FLAMMABLE LIMIT:	Not determined
EXTINGUISHING MEDIA:	Water, water fog, chemical, carbon dioxide CO <sub>2</sub> .
SPECIAL FIRE FIGHTING PROCEDURES:	Evacuate area of all necessary personnel. Use self-contained respirators for fire fighting personnel.
UNUSUAL FIRE AND EXPLOSION HAZARDS:	If in a finely divided and suspended state, treat as a flammable dust. Material becomes very slippery when contacted with water.

---

### SECTION VII: REACTIVITY DATA

---

STABLE [XXX] INSTABLE [ ]	
INCOMPATIBILITY (CONDITIONS TO AVOID):	Strong oxidizing and caustic solutions.
HAZARDOUS DECOMPOSITION PRODUCTS:	Carbon Dioxide, Carbon Monoxide
HAZARDOUS POLYMERIZATION:	Will not occur [XXX] May occur [ ]

---

### SECTION VIII: PREVENTATIVE MEASURES

---

RESPIRATORY PROTECTION:	Suggest dust mask. Nuisance dust.
VENTILATION:	No special requirements.
PROTECTIVE GLOVES:	None required.
EYE PROTECTION:	Suggest goggles, nuisance dust.
OTHER PROTECTIVE EQUIPMENT:	None required.

#### PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE:

Avoid ingestion. Practice reasonable caution and personal cleanliness. Avoid skin and eye contact. Material become slippery when wet.

#### STEPS TO BE TAKEN IN CASE OF SPILL OR LEAK:

Vacuum or sweep-up if dry. If wet, pick up with dry material such as sand or dirt. Avoid flushing with water as material becomes slippery.

#### WASTE DISPOSAL METHOD:

Dispose of material in accordance with local ordinances. Landfill suggested.

---

### SECTION IX: PREPARATION

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The information contained herein is given in good faith, but no warranty, expressed or implied is made.

DATE ISSUED: February 20, 1989

DATE REVISED: September 1, 1997

BY: Product Safety Committee

## SECTION I: IDENTIFICATION OF PRODUCT

PRODUCT NAME: **WDS 120/L**  
PRODUCT USE: Flocculant  
CHEMICAL FAMILY: Anionic polyacrylamides in water-in-oil emulsion.  
CAS NO. AND NAME: Mixture  
FORMULA AND M.WT.: Mixture  
WHMIS CLASSIFICATION: Combustible liquid, CLASS B-3 Toxic material, CLASS D-2B  
WORK PLACE HAZARD:

## TRANSPORTATION OF DANGEROUS GOODS (TDGR)

CLASSIFICATION: Not Dangerous Goods  
PACKAGE GROUP:  
PRODUCT IDENTIFICATION NUMBER (PIN):

## SECTION II: HAZARDOUS INGREDIENTS

INGREDIENT	PERCENTAGE	CAS NUMBER	LD50	LC50
Mineral Spirits	20 - 40%	64742-47-8	Not available	
Alkyl phenol ethoxylate	3 - 7%	68412-54-4	(oral, rat) = 3,000 mg/kg	(dermal rabbit): 2,830 mg/kg
Ethoxylated C12-15 alcohol	< 1 - 6%	68131-39-5	(oral, rat): 2,500 mg/kg	

## SECTION III: TOXICOLOGICAL PROPERTIES

## ROUTE OF ENTRY:

[XXX] Skin, [XXX] Eye Contact, [XXX] Inhalation, [XXX] Ingestion

SKIN CONTACT: Contact may cause irritation, redness, swelling, or dermatitis.  
SKIN ABSORPTION: Not available.  
EYE CONTACT: Will cause painful burning or stinging of eyes and lids, watering of eyes, and inflammation of conjunctiva.  
INHALATION: Not available.  
INGESTION: May cause nausea and vomiting.  
EFFECTS OF CHRONIC EXPOSURE: Skin irritation or dermatitis may occur upon frequent or prolonged contact.  
EXPOSURE LIMITS: Contains traces of acrylamide. Exposure limit, TWAEV = 0.03 mg M3 (ONT. Reg. 654/86)  
IRRITANCY OF PRODUCT: Skin: Moderate irritant; Eye: Moderate irritant.  
SENSITIZATION TO MATERIAL: Repeated or prolonged contact may cause sensitization in some individuals.  
CARCINOGENICITY: Product contains traces of acrylamide which is reported by ACGIH as a suspect carcinogen (Group A2).  
REPRODUCTIVE TOXICITY: Not available  
TERATOGENICITY: Not available  
MUTAGENICITY: Not available  
TOXICOLOGICALLY SYNERGISTIC PRODUCTS: Not available



## WDS 120/L

Page 2 of 3

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### SECTION IV: FIRST AID MEASURES

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**SKIN CONTACT:** Wash exposed area with soap and water. If irritation or abnormalities persist, call a physician.

**EYE CONTACT:** Immediately flush eyes with water for fifteen (15) minutes and call a physician. Contact lenses should not be worn when working with this material.

**INHALATION:** Remove to fresh air. If not breathing, give artificial respiration, preferably mouth-to-mouth. If breathing is difficult, give oxygen. Call a physician.

**INGESTION:** Do not induce vomiting. If conscious, dilute by giving two glasses of water. Call a physician immediately.

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### SECTION V: PHYSICAL DATA

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PHYSICAL STATE:	Liquid
APPEARANCE AND ODOR:	Liquid emulsion
ODOR THRESHOLD:	Not available
DENSITY (SPECIFIC GRAVITY):	Not available
BOILING POINT:	Not available
FREEZING POINT:	Not available
WATER SOLUBILITY:	Soluble
EVAPORATION RATE:	Not available
VAPOR PRESSURE: (mm Hg)	Not available
VAPOR DENSITY: (Air =1)	Not available
DENSITY: (.g/ml):	Not available
pH:	7.0 - 9.0 (0.6% in D.W.)

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### SECTION VI: FIRE AND EXPLOSION HAZARD DATA

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FLASH POINT:	65° C (C.C.)
UPPER FLAMMABLE LIMIT:	Not available
LOWER FLAMMABLE LIMIT:	Not available
AUTO-IGNITION TEMPERATURE:	Not available
CONDITIONS OF FLAMMABILITY:	Requires a source of ignition, the presence of air, and a temperature greater than the flash point.
EXTINGUISHING MEDIA:	Water spray, foam, dry chemical, or carbon dioxide. Water may cause excessive slipperiness.
HAZARDOUS COMBUSTION PRODUCTS:	Oxides of carbon and nitrogen and products of incomplete combustion.
SPECIAL FIRE FIGHTING PROCEDURES:	
EXPLOSION DATA:	Sensitivity to mechanical impact: not sensitive.
EXPLOSION DATA:	Sensitivity to static discharge: Potential for fire and/or explosion. Grounding and use of explosion-proof equipment is recommended.

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### SECTION VII: REACTIVITY DATA

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STABLE [XXX] INSTABLE:[ ]	
INCOMPATIBILITY SUBSTANCES (CONDITIONS TO AVOID):	Avoid strong oxidizing and reducing agents.
CONDITIONS OF REACTIVITY:	Avoid contamination with reactive substances.
HAZARDOUS DECOMPOSITION PRODUCTS:	Not available
HAZARDOUS POLYMERIZATION:	Will not occur [XXX] May occur [ ]



## WDS 120/L

Page 3 of 3

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### SECTION VIII: PREVENTATIVE MEASURES

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RESPIRATORY PROTECTION:	If mist and/or hot vapors are present use air-purifying respirator or self-contained breathing apparatus as required.
ENGINEERING CONTROLS (VENTILATION):	General ventilation with a good source of make-up air recommended for all indoor situations.
PROTECTIVE GLOVES:	Rubber or plastic gloves.
EYE PROTECTION:	Chemical goggles.
OTHER PROTECTIVE EQUIPMENT:	Clothing as required to protect against contact.

#### PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE:

Avoid prolonged or frequent contact when handling material. Avoid breathing mists or vapor. Handle only in adequately ventilated areas. Explosion-proof equipment is recommended. Electrically ground all equipment. Protective measures during repair/maintenance of equipment. Wash equipment thoroughly with steam or warm water until clean. Check for flammables with an "explosion meter" and also check the oxygen level with an oxygen meter. In all cases, follow good industrial safety practices before entering equipment.

Keep container closed when not in use. Store in cool and dry location away from oxidizing and reducing agents.

#### SPECIAL SHIPPING INFORMATION:

None

#### STEPS TO BE TAKEN IN CASE OF SPILL OR LEAK:

Eliminate sources of ignition. Collect into waste container. Absorb remaining product with earth or sand and dispose of with solid waste. Wash spill site after material pick-up. Do not breathe vapors. Use NIOSH approved respirator if exposed to vapors. Avoid drainage of spilled material to sewers or waterways.

#### WASTE DISPOSAL METHOD:

Dispose of waste according to federal, provincial, and local regulations.

May be used directly as a fuel stock with appropriate emissions control equipment. Otherwise, incinerate directly with or without other flammable solvent additives.

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### SECTION IX: PREPARATION

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The information contained herein is given in good faith, but no warranty, expressed or implied is made.

DATE ISSUED: January 20, 1995

DATE REVISED: September 1, 1997

BY: Product Safety Committee

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**SECTION I: IDENTIFICATION OF PRODUCT**

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PRODUCT NAME: **BIG BEAR DIAMOND DRILL ROD GREASE**  
CHEMICAL FAMILY: Hydrocarbon  
WHMIS CLASSIFICATION: Not regulated  
WORK PLACE HAZARD: Not applicable

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**TRANSPORTATION OF DANGEROUS GOODS (TDGR)**

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CLASSIFICATION: Not regulated  
PACKAGE GROUP: Not applicable  
PRODUCT IDENTIFICATION NUMBER (PIN): Not applicable

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**SECTION II: HAZARDOUS INGREDIENTS**

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INGREDIENT	PERCENTAGE	CAS NUMBER	LD50	LC50
Severely hydrotreated naphthenic oils	< 75.00%	64742-52-5	>3 g/kg (Dermal Rabbit) >5 g/kg (Oral Rat)	N/D
Barium soap	< 35.00%	68201-19-4	Not determined	

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**SECTION III: TOXICOLOGICAL PROPERTIES**

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ROUTE OF ENTRY:  
[XXX] Skin, [ ] Eye Contact, [ ] Inhalation, [ ] Ingestion  
SKIN CONTACT: Acute exposure is believed to be minimally irritating  
EYE CONTACT: Acute exposure is believed to be minimally irritating.  
INHALATION: Believed to be minimally irritating if not in excess of permissible concentrations; see Section VIII.  
INGESTION: Not available  
CHRONIC OVEREXPOSURE: Not determined  
IRRITATION INDEX: SKIN: Believed to be 1.0 - 2.0/8.0 (Rabbit); slightly irritating  
EYES: Believed to be <15/110 (Rabbit); no appreciable effect  
SYMPTOMS OF EXPOSURE: None expected other than possible minor irritation. Considered practically non-toxic.

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**SECTION IV: FIRST AID MEASURES**

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SKIN CONTACT: None considered necessary.  
EYE CONTACT: As with most foreign materials, should eye contact occur, flush eyes with plenty of water.  
INHALATION: None considered necessary.  
INGESTION: None considered necessary. Do not induce vomiting.  
OTHER INSTRUCTIONS: In some cases of ingestion and/or inhalation, medical attention should be obtained.

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**SECTION V: PHYSICAL DATA**

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APPEARANCE AND ODOR: Brownish yellow, fibrous grease  
DENSITY (SPECIFIC GRAVITY): >1.0  
BOILING POINT: 700° F  
MELTING POINT: 400° F  
WATER SOLUBILITY: Negligible  
% VOLATILE BY VOLUME: Not determined



## BIG BEAR DIAMOND DRILL ROD GREASE

Page 2 of 3

EVAPORATION RATE:	Not determined
VAPOR PRESSURE (mm Hg):	Not determined (low)
VAPOR DENSITY (Air =1):	>1.0
pH:	Not applicable
VISCOSITY:	NLGI No. 3-4 grease

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### SECTION VI: FIRE AND EXPLOSION HAZARD DATA

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FLASH POINT:	>350° F (COC Method)
FLAMMABLE LIMIT:	Not determined
EXTINGUISHING MEDIA:	According to the National Fire Protection Association Guide, use water spray. Dry chemical, Foam, Carbon Dioxide CO <sub>2</sub> . Water or foam may cause frothing.
SPECIAL FIRE FIGHTING PROCEDURES:	Use water to cool fire-exposed containers. If a leak or spill has not ignited, use water spray to disperse the vapors and to provide protection for persons attempting to stop the leak. See Hazardous Decomposition Products, Section VII.
UNUSUAL FIRE AND EXPLOSION HAZARDS:	None

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### SECTION VII: REACTIVITY DATA

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STABLE [XXX] INSTABLE [ ]	Info not available
INCOMPATIBILITY (CONDITIONS TO AVOID):	Strong oxidizers.
HAZARDOUS DECOMPOSITION PRODUCTS:	This material decomposes at a high temperature to form carbon monoxide, carbon dioxide, aldehydes and ketones, combustion products of nitrogen and sulphur.
HAZARDOUS POLYMERIZATION:	Will not occur [XXX] May occur [ ]

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### SECTION VIII: PREVENTATIVE MEASURES

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RESPIRATORY PROTECTION:	None required if exposures are within the permissible concentrations. See below
VENTILATION:	Natural dilution
PROTECTIVE GLOVES:	Neoprene
EYE PROTECTION:	Chemical type goggle or face shield optional
OTHER PROTECTIVE EQUIPMENT:	Standard work clothing and work shoes.
PERMISSIBLE CONCENTRATIONS: AIR:	5mg/cubic metre of air for mineral oil mist averaged over an 8 hour daily exposure (ACGIH 1986 - 87)

#### PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE:

Exposed persons should exercise reasonable personal cleanliness; this includes cleansing exposed skin areas several times daily with soap and water and laundering or dry cleaning soiled work clothing at least weekly. Minimum feasible handling temperatures should be maintained. Periods of exposure to high temperatures should be minimized. Water contamination should be avoided.



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## **BIG BEAR DIAMOND DRILL ROD GREASE**

Page 3 of 3

### **STEPS TO BE TAKEN IN CASE OF SPILL OR LEAK:**

Contain spill if possible. Wipe up or absorb on suitable material and shovel up.

### **WASTE DISPOSAL METHOD:**

Re-evaluation of the product may be required by the user at the time of disposal, since the product uses, transformations, mixtures and processes may influence waste classification. Disposal should be in accordance with applicable federal, provincial and local regulations.

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### **SECTION IX: PREPARATION**

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The information contained herein is given in good faith, but no warranty, expressed or implied is made.

DATE ISSUED: September 17, 1993

DATE REVISED: September 1, 1997

BY: Product Safety Committee

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**SECTION I: IDENTIFICATION OF PRODUCT**

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PRODUCT NAME: **550X POLYMER**  
CHEMICAL FAMILY: Copolymer of Acrylamide and Sodium Acrylate  
PRODUCT USE: Drilling Mud Additive  
WHMIS CLASSIFICATION: Not a Controlled Product under WHMIS  
WORK PLACE HAZARD: Not applicable

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**TRANSPORTATION OF DANGEROUS GOODS (TDGR)**

---

CLASSIFICATION: Not applicable  
PACKAGE GROUP: Not applicable  
PRODUCT IDENTIFICATION NUMBER (PIN): Not applicable

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**SECTION II: HAZARDOUS INGREDIENTS**

---

INGREDIENT	PERCENTAGE	CAS NUMBER	LD50	LC50
No Hazardous Ingredients				

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**SECTION III: TOXICOLOGICAL PROPERTIES**

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ROUTE OF ENTRY:  
[ ] Skin, [ ] Eye Contact, [XXX] Inhalation, [ ] Ingestion

SKIN CONTACT: Prolonged contact may cause skin irritation or dermatitis in some individuals.  
EYE CONTACT: May cause irritation.  
INHALATION: May cause sneezing, slight irritation of nose and throat.  
INGESTION: Not available  
EFFECTS OF ACUTE EXPOSURE: Not available  
EFFECTS OF CHRONIC EXPOSURE: Not available

---

**SECTION IV: FIRST AID MEASURES**

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SKIN CONTACT: Wash exposed area with soap and water. If irritation or abnormalities persist, call a physician.  
EYE CONTACT: Immediately flush eyes with water for fifteen (15) minutes and call a physician.  
INHALATION: Remove to fresh air. If not breathing, give artificial respiration, preferably mouth-to-mouth. If breathing is difficult, give oxygen. Call a physician.  
INGESTION: Do not induce vomiting. If conscious, dilute by giving two glasses of water. Call a physician immediately.

---

**SECTION V: PHYSICAL DATA**

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APPEARANCE AND ODOR: White granular solid; faint odor  
DENSITY (SPECIFIC GRAVITY): 0.80  
BOILING POINT: Decomposes  
MELTING POINT: Not applicable  
WATER SOLUBILITY: Soluble  
% VOLATILE BY VOLUME: Not applicable  
EVAPORATION RATE: Not applicable  
VAPOR PRESSURE (mm Hg): Very low  
VAPOR DENSITY (Air = 1): Not applicable



## 550X POLYMER

Page 2 of 3

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### SECTION VI: FIRE AND EXPLOSION HAZARD DATA

---

FLASH POINT:	Not applicable
FLAMMABLE LIMIT:	Not applicable
EXTINGUISHING MEDIA:	Dry chemical, foam, CO <sub>2</sub>
SPECIAL FIRE FIGHTING PROCEDURES:	Use self-contained respirators for fire fighting personnel.
UNUSUAL FIRE AND EXPLOSION HAZARDS:	Oxides of carbon and nitrogen and products of incomplete combustion.

---

### SECTION VII: REACTIVITY DATA

---

STABLE [XXX] INSTABLE [ ]	
INCOMPATIBILITY (CONDITIONS TO AVOID):	Strong oxidizing agents and caustic solutions.
HAZARDOUS DECOMPOSITION PRODUCTS:	Not applicable
HAZARDOUS POLYMERIZATION:	Will not occur [XXX] May occur [ ]

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### SECTION VIII: PREVENTATIVE MEASURES

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RESPIRATORY PROTECTION:	Suggest NIOSH/MESA approved dust mask.
VENTILATION:	Ten (10) changes per hour suggested.
PROTECTIVE GLOVES:	Suggest plastic or rubber.
EYE PROTECTION:	Suggest goggles.
OTHER PROTECTIVE EQUIPMENT:	Suggest rubber apron.

#### PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE:

Avoid prolonged or frequent contact when handling material. Do not inhale dust or breathe vapor. Keep container closed when not in use. Store in a cool and dry location away from oxidizing and reducing agents.

#### STEPS TO BE TAKEN IN CASE OF SPILL OR LEAK:

Ventilate area. Wear rubber boots, gloves and a self contained breathing apparatus if ventilation is not adequate. Collect into a waste container. Avoid raising dust. Wash spill site after material pick-up. Water solutions are very slippery. May constitute a hazard following a spill.

#### WASTE DISPOSAL METHOD:

Dispose of waste according to federal, provincial and local regulations.

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### SECTION IX: PREPARATION

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The information contained herein is given in good faith, but no warranty, expressed or implied is made.

DATE ISSUED: January 1, 1991

DATE REVISED: January 1, 1995

BY: Product Safety Committees

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**550X POLYMER**

Page 3 of 3

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**AMENDMENT**  
**HAZARDOUS INGREDIENTS (550X)**

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Material or component	WT%	Hazard data
COPOLYACRYLAMIDE/SODIUM ACRYLATE		Not considered hazardous

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**ENVIRONMENTAL**

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DEGRADABILITY/AQUATIC TOXICITY:	Not determined	
OCTANOL/WATER PARTITION COEFFICIENT:	Not determined	
WASTE DISPOSAL METHODS:	Incineration and/or disposal in Chemical Landfill. Disposer must comply with federal, provincial and local disposal or discharge laws.	
RCRA STATUS OF UNUSED MATERIAL IF DISCARDED:	Not a "Hazardous Waste".	
HAZARDOUS WASTE NUMBER:	Not available	
REPORTABLE QUANTITY:	EPA 40 CFR (CERCLA 102):	Not applicable
THRESHOLD PLANNING QUANTITY:	EPA 40 CRF 355 (SERA 301-304):	Not applicable
TOXIC CHEMICAL RELEASE REPORTING:	EPA 40 CFR 372 (SERA 311-313):	Not applicable
EPA HAZARD CLASSIFICATION CODE:	ACUTE - YES	CHRONIC - NO
	FIRE - NO	PRESSURE - NO
		REACTIVE - NO
HMIS AND NFPA RATINGS:	HMIS	NFPA
HEALTH	1	1
FLAMMABILITY	0	0
REACTIVITY	1	1
SPECIAL	Not applicable	Not applicable